

## **Claim Amendments**

1. (currently amended) A transmission target X-ray tube comprising:  
a cathode arranged to provide a source of electrons;  
an anode held at a positive potential with respect to the cathode to accelerate electrons from the cathode such that they will impact on the anode thereby to produce X-rays, wherein the anode is a thin film anode; and  
a retardation electrode held at a negative potential with respect to the anode to produce an electric field between the anode and the retardation electrode which ~~can~~ slows down electrons which have passed through the anode thereby reducing the amount of heat they ~~can~~ generate in the tube, wherein the retardation electrode is located on the opposite side of the anode to the cathode.
2. (original) A transmission target X-ray tube according to claim 1 wherein the retardation electrode is held at a positive potential with respect to the cathode.
3. (previously presented) A transmission target X-ray tube according to claim 1 wherein the retardation electrode is made of an electrically conducting material.
4. (previously presented) A transmission target X-ray tube according to claim 1 wherein the retardation electrode forms part of an electrical circuit and its potential is substantially constant.
5. (previously presented) A transmission target X-ray tube according to claim 4 wherein the retardation electrode is electrically connected to the anode via a resistor, wherein current flowing through the resistor determines the potential of the retardation electrode with respect to the anode.
6. (previously presented) A transmission target X-ray tube according to claim 1 further comprising: a housing enclosing the anode and the cathode, wherein at least a part of the housing forms the retardation electrode.
7. (previously presented) A transmission target X-ray tube according to claim 1 further comprising a housing, wherein the retardation electrode is located between the anode and the housing.
8. (previously presented) A transmission target X-ray tube according to claim 1 wherein the anode is supported on a backing layer of lower atomic number material than the anode.
9. (previously presented) A transmission target X-ray tube according to claim 1 wherein the anode has a thickness of 5 microns or less.
10. (previously presented) A transmission target X-ray tube according to claim 1 wherein the tube further defines a window through which X-rays are emitted and wherein the retardation

electrode extends between the anode and the window so that X-rays passing out through the window will pass through the retardation electrode.

11. (previously presented) A transmission target X-ray tube according to claim 10 wherein the anode produces X-rays having a range of energies including a peak energy, and the retardation electrode has an X-ray attenuation which varies with X-ray energy and has a minimum value around a minimum attenuation energy, and wherein the retardation electrode material is selected such that the minimum attenuation energy coincides with the peak energy.

12. (canceled)